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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,549	03/25/2004	Ehud Langberg	060707-1760	4908
24504 7590 10/11/2007 THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 600 GALLERIA PARKWAY STE 1500 ATLANTA, GA 30339			EXAMINER TRAN, QUOC DUC	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 10/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/808,549

**Applicant(s)**

LANGBERG ET AL.

**Examiner**

Quoc D. Tran

**Art Unit**

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (6,055,297) in view of Corazza (2003/0133409).

Consider claim 1, Terry teaches a method for multiple inputs, multiple outputs (MIMO) power spectral density (PSD) allocation in a digital subscriber line (DSL) system, the method comprising: monitoring system performance by performing a multi-ended line test (MELT); processing the MELT (col. 3 lines 41-67).

Terry did not specifically suggest of allocating PSD based on at least one of the following: system coupling power and system traffic, the allocating PSD based on system coupling power comprising a full mask control scheme. However, Corazza disclosed of resource allocation that allocates PSD based on traffic load (i.e., system traffic) (see ¶ 0015).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to incorporate the teaching of Corazza into view of Terry in order to provide network optimization for improvement of communication.

Consider claims 2-5, Terry teaches the limitations of these claims (col. 5 lines 33-55; col. 6 lines 39-59).

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Consider 6, Terry teaches wherein processing the MELT further comprises processing the MELT by a disruptive method (col. 6 lines 20-24).

Consider claims 7-9, Terry teaches the limitations of these claims (col. 6 lines 41-45).

Consider claims 21-23, paragraphs 0040-0042 of Corazza read on the claimed limitations.

3. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (6,055,297) in view of Ketchum et al (7,116,725).

Consider claims 13 and 16, Terry teaches a system for dynamically monitoring and allocating upstream and downstream power spectral density (PSD) of a transceiver set, the system comprising: a monitor for performing multi-ended line tests (MELT) (col. 3 lines 41-67); a controller, responsive to the monitor, for dynamically allocating upstream and downstream PSD (col. 4 lines 2-6); and a table of upstream PSD and downstream PSD for each time (t) and each line (i.e., DSP templates; see col. 6 lines 39-59).

Terry did not suggest of performing multiple inputs, multiple outputs (MIMO) dynamic PSD allocation of upstream and downstream PSD. However, Ketchum et al suggested such (col. 2 lines 34-56; col. 9 lines 2-15).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to incorporate the teaching of Ketchum et al into view of Terry in order to improve transmission rate in the MIMO system.

Consider claims 14-15 and 17, Terry teaches the limitations of these claims (col. 6 lines 41-45).

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Consider claim 18, Terry teaches the limitations of these claims (col. 5 lines 33-55; col. 6 lines 39-59).

Consider claims 19-20, the combination of Terry and Ketchum et al teach the limitations of these claims (col. 6 lines 41-45 of Terry).

### ***Response to Arguments***

4. Applicant's arguments with respect to claim 1-9 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments filed 8/3/2007 with respect to claims 13-20 have been fully considered but they are not persuasive.

Regarding applicant argument with respect to claims 13 and 16 that Ketchum et al “allocating downlink and uplink using different frequency bands is different than “dynamic PSD allocation of upstream and downstream PSD”. Accordingly, the examiner respectfully disagrees with applicant argument. Ketchum et al disclosed of allocating transmit power to each of the uplink and downlink channel in accordance with the conditions of the channel (see background and summary). Thus, implies allocating dynamically. Therefore, Ketchum et al still read on the claimed limitation, irrespective of using different frequency bands.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Facsimile responses should be faxed to:

**(571) 273-8300**

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
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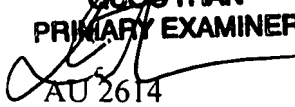
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Quoc Tran** whose telephone number is **(571) 272-7511**. The examiner can normally be reached on M, T, TH and Friday from 8:00 to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Curtis Kuntz**, can be reached on **(571) 272-7499**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600** whose telephone number is **(571) 272-2600**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**QUOCTRAN**  
**PRIMARY EXAMINER**

  
AU 2614

October 3, 2007